



zhuseq.txt
SEQUENCE LISTING

<110> Zhu, Zhenping
Witte, Larry

<120> Antibodies Specific to KDR and Uses Thereof

<130> 11245/46506

<140> To Be Assigned

<141> Herewith 03-18-2004

<150> US 09/976,787

<151> 10-12-2001

<150> US 09/493,539

<151> 01-28-2000

<150> US 60/117,726

<151> 01-29-1999

<160> 40

<170> WordPerfect 8.0 for Windows

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Gly
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<213> Mus musculus

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Ser Ala Ser Ser Ser Val Ser Tyr Met His
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Ser Thr Ser Asn Leu Ala Ser
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Gln Gln Arg Ser Ser Tyr Pro Phe Thr
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<210> 7

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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
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Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
20 25 30

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Tyr	Met	His	Trp	Val	Lys	Gln	Arg	Pro	Glu	Gln	Gly	Leu	Glu	Trp	Ile
		35					40					45			
Gly	Trp	Ile	Asp	Pro	Glu	Asn	Gly	Asp	Ser	Gly	Tyr	Ala	Pro	Lys	Phe
	50					55					60				
Gln	Gly	Lys	Ala	Thr	Met	Thr	Ala	Asp	Ser	Ser	Ser	Asn	Thr	Ala	Tyr
	65				70					75					80
Leu	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Asn	Ala	Tyr	Tyr	Gly	Asp	Tyr	Glu	Gly	Tyr	Trp	Gly	Gln	Gly	Thr	Thr
		100						105					110		
Val	Thr	Val	Ser	Ser											
		115													

<210> 8
 <211> 108
 <212> PRT
 <213> Mus musculus

<400> 8

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Glu	Lys	Val	Thr	Ile	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Val	Ser	Tyr	Met
			20					25					30		
His	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Thr	Ser	Pro	Lys	Leu	Trp	Ile	Tyr
		35					40					45			
Ser	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser
	50					55					60				
Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Arg	Met	Glu	Ala	Glu
	65				70					75					80
Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Arg	Ser	Ser	Tyr	Pro	Phe	Thr
				85					90					95	
Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala				
			100					105							

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zhuseq.txt

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30

Gly Phe Asn Ile Lys Asp Phe Tyr Met His
1 5 10

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ggc

51

Gly

17

<210> 11

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<210> 12

<211> 30

<212> DNA

<213> Mus musculus

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30

Ser Ala Ser Ser Ser Val Ser Tyr Met His
5 10

zhuseq.txt

<210> 13
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<210> 14
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<400> 14

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 Gln Gln Arg Ser Ser Tyr Pro Phe Thr
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<210> 15
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 tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc
 96
 Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
 20 25 30
 tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att
 144
 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 gga tgg att gat cct gag aat ggt gat tct ggt tat gcc ccg aag ttc
 192
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
 Page 5

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50          55          60
cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac
240
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65          70          75          80

ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt
288
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85          90          95

aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg
336
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100          105          110

gtc acc gtc tcc tca
351
Val Thr Val Ser Ser
115

<210> 16
<211> 324
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<213> Mus musculus

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5          10          15

gag aag gtc acc ata acc tgc agt gcc agc tca agt gta agt tac atg
96
Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20          25          30

cac tgg ttc cag cag aag cca ggc act tct ccc aaa ctc tgg att tat
144
His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
35          40          45

agc aca tcc aac ctg gct tct gga gtc cct gct cgc ttc agt ggc agt
192
Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50          55          60

gga tct ggg acc tct tac tct ctc aca atc agc cga atg gag gct gaa
240

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zhuseq.txt

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65 70 75 80
gat gct gcc act tat tac tgc cag caa agg agt agt tac cca ttc acg
288
Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
85 90 95
ttc ggc tcg ggg acc aag ctg gaa ata aaa cgg gcg
324
Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
100 105

<210> 17
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<213> Artificial Sequence

<220>
<223> peptide linker

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<212> DNA
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<220>
<223> nucleic acid encoding peptide linker

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<210> 19
<211> 10
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<220>
<223> peptide linker

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Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 5 10

<210> 20

<211> 15

<212> DNA

<213> Artificial Sequence

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<223> nucleic acid encoding peptide linker

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<213> Artificial Sequence

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<223> peptide linker

<400> 21

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<210> 22

<211> 17

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<213> Mouse

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Gly
 17

<210> 23

<211> 117

zhuseq.txt

<212> PRT
<213> Mouse

<400> 23

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			20					25					30		
Tyr	Met	His	Trp	Val	Lys	Gln	Arg	Pro	Glu	Gln	Gly	Leu	Glu	Trp	Ile
		35					40					45			
Gly	Trp	Ile	Asp	Pro	Glu	Asn	Gly	Asp	Ser	Asp	Tyr	Ala	Pro	Lys	Phe
	50					55					60				
Gln	Gly	Lys	Ala	Thr	Met	Thr	Ala	Asp	Ser	Ser	Ser	Asn	Thr	Ala	Tyr
65					70					75					80
Leu	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Asn	Ala	Tyr	Tyr	Gly	Asp	Tyr	Glu	Gly	Tyr	Trp	Gly	Gln	Gly	Thr	Thr
			100					105					110		
Val	Thr	Val	Ser	Ser											

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<212> PRT
<213> Mouse

<400> 24

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Glu	Lys	Val	Thr	Ile	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Val	Ser	Tyr	Met
			20					25					30		
His	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Thr	Ser	Pro	Lys	Leu	Trp	Ile	Tyr
		35					40					45			
Ser	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser
	50					55					60				
Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Arg	Met	Glu	Ala	Glu
65					70					75					80

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Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 25
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 <213> Mouse

<400> 25

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ggc
 51
 Gly
 17

<210> 26
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 Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
 1 5 10 15

tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc
 96
 Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
 20 25 30

tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att
 144
 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45

gga tgg att gat cct gag aat ggt gat tct gat tat gcc ccg aag ttc
 192
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
 50 55 60

cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac

zhuseq.txt

240
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt
 288
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg
 336
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 gtc acc gtc tcc tca
 351
 Val Thr Val Ser Ser
 115

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 gag aag gtc acc ata acc tgc agt gcc agc tca agt gta agt tac atg
 96
 Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30
 cac tgg ttc cag cag aag cca ggc act tct ccc aaa ctc tgg att tat
 144
 His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
 35 40 45
 agc aca tcc aac ctg gct tct gga gtc cct gct cgc ttc agt ggc agt
 192
 Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60
 gga tct ggg acc tct tac tct ctc aca atc agc cga atg gag gct gaa
 240
 Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
 65 70 75 80

zhuseq.txt

gat gct gcc act tat tac tgc cag caa agg agt agt tac cca ttc acg
288

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
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318
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Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
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Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
130 135 140

Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145 150 155 160

Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175

Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg

zhuseq.txt

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Met	Glu	Ala	Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Arg	Ser	Ser		
	210					215					220						
Tyr	Pro	Phe	Thr	Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala		
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Ser	Val	Lys	Leu	Ser	Cys	Thr	Thr	Ser	Gly	Phe	Asn	Ile	Lys	Asp	Phe		
			20					25					30				
Tyr	Met	His	Trp	Val	Lys	Gln	Arg	Pro	Glu	Gln	Gly	Leu	Glu	Trp	Ile		
		35					40					45					
Gly	Trp	Ile	Asp	Pro	Glu	Asn	Gly	Asp	Ser	Asp	Tyr	Ala	Pro	Lys	Phe		
	50					55					60						
Gln	Gly	Lys	Ala	Thr	Met	Thr	Ala	Asp	Ser	Ser	Ser	Asn	Thr	Ala	Tyr		
65					70					75					80		
Leu	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys		
				85					90					95			
Asn	Ala	Tyr	Tyr	Gly	Asp	Tyr	Glu	Gly	Tyr	Trp	Gly	Gln	Gly	Thr	Thr		
			100					105					110				
Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly		
		115					120					125					
Gly	Gly	Gly	Ser	Asp	Ile	Glu	Leu	Thr	Gln	Ser	Pro	Ala	Ile	Met	Ser		
		130				135					140						
Ala	Ser	Pro	Gly	Glu	Lys	Val	Thr	Ile	Thr	Cys	Ser	Ala	Ser	Ser	Ser		
145					150					155					160		
Val	Ser	Tyr	Met	His	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Thr	Ser	Pro	Lys		
				165					170					175			

zhuseq.txt

Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
 180 185 190

Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
 195 200 205

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 225 230 235

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<211> 720

<212> DNA

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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
 1 5 10 15

tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc
 96

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
 20 25 30

tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att
 144

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45

gga tgg att gat cct gag aat ggt gat tct ggt tat gcc ccg aag ttc
 192

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
 50 55 60

cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac
 240

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
 65 70 75 80

ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt
 288

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg
 336

zhuseq.txt

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Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
      100      105      110

gtc acc gtc tcc tca ggt gga ggc ggt tca ggc gga ggt ggc tct ggc
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Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly
      115      120      125

ggg ggc gga tcg gac atc gag ctc act cag tct cca gca atc atg tct
432
Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
      130      135      140

gca tct cca ggg gag aag gtc acc ata acc tgc agt gcc agc tca agt
480
Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
      145      150      155      160

gta agt tac atg cac tgg ttc cag cag aag cca ggc act tct ccc aaa
528
Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
      165      170      175

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576
Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
      180      185      190

ttc agt ggc agt gga tct ggg acc tct tac tct ctc aca atc agc cga
624
Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
      195      200      205

atg gag gct gaa gat gct gcc act tat tac tgc cag caa agg agt agt
672
Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
      210      215      220

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Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
      225      230      235      240

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zhuseq.txt

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 96
 Ser Val Lys Leu Ser Cys Thr Thr Ser Ser Phe Asn Ile Lys Asp Phe
 20 25 30
 tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att
 144
 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 gga tgg att gat cct gag aat ggt gat tct gat tat gcc ccg aag ttc
 192
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
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 cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac
 240
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt
 288
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg
 336
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 gtc acc gtc tcc tca ggt gga ggc ggt tca ggc gga ggt agc tct ggc
 384
 Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Gly
 115 120 125
 ggt ggc gga tcg gac atc gag ctc act cag tct cca gca atc atg tct
 432
 Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
 130 135 140
 gca tct cca ggg gag aag gtc acc ata acc tgc agt gcc agc tca agt
 480
 Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
 145 150 155 160
 gta agt tac atg cac tgg ttc cag cag aag cca ggc act tct ccc aaa
 528
 Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys

zhuseq.txt

165

170

175

ctc tgg att tat agc aca tcc aac ctg gct tct gga gtc cct gct cgc
576

Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
180 185 190

ttc agt ggc agt gga tct ggg acc tct tac tct ctc aca atc agc cga
624

Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
195 200 205

atg gag gct gaa gat gct gcc act tat tac tgc cag caa agg agt agt
672

Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
210 215 220

tac cca ttc acg ttc ggc tcg ggg acc aag ctg gaa ata aaa
714

Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
225 230 235

<210> 32

<211> 19

<212> PRT

<213> Mouse

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<223> leader peptide

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Val His Ser
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<211> 57

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<400> 33

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48

Met Gly Trp Ser Cys Leu Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

zhuseq.txt

gta cat tca
57
Val His Ser
19

<210> 34
<211> 19
<212> PRT
<213> Mouse

<220>
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<400> 34

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser
19

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<400> 35

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Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
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gta cat tca
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Val His Ser
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zhuseq.txt

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